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10/574,521

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EXAMINER

BITAR, NANCY

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2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/574,521 | <b>Applicant(s)</b><br>LONGUET ET AL. |  |
|                              | <b>Examiner</b><br>NANCY BITAR       | <b>Art Unit</b><br>2624               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Response to arguments**

1. An interview for application 10/574521 has been conducted with Mr. David Wards on 4/7/2009 and has been made of record. Examiner vacates the final rejection mailed 2/4/2009 and is issuing a new final rejection in order to be more clear in the 103 rejection for claim 8-14 over Rutt et al ( EP 0447080) in view of Claus et al ( US 7,133,067)

2. Applicant argues that Rutt et al teaches an aerial reconnaissance device comprising a conventional mortar ammunition that is fired above a zone to be checked and then slowly descends over the zone suspended by a parachute or balloon therefore, during the curved trajectory between the mortar and the zone to be checked, the aerial reconnaissance device of Rutt cannot be rotating. Moreover, applicant argues that Rutt does not describe or suggest how” to deliberately spin the reconnaissance device” and how “to produce a steady image” so Rutt does not disclose a rotating missile. Applicant argues that Rutt does not teach the geometrical image transformation to process the image.

In response, applicant assumes that the aerial reconnaissance of Rutt does not rotate. Examiner refers to Rutt ET figure 1. Rutt teaches an aerial reconnaissance device an elongated body having a flight arresting device at one end, an image forming device at the other end, a telemetry package adapted to transmit to a receiving station an image of a scene viewed by the image forming device and means for deploying the flight arresting device at a suitable point in the flight path of the reconnaissance device when it is in use. Rutt clearly teaches, in column 3 lines 1-8 , the signals from the telemetry package 8 related to the orientation of the

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reconnaissance device, particularly if it is being deliberately spun ( i.e. rotate ) may be used in the command module 15. Therefore, the reconnaissance device can rotate. As for the argument, Applicant argues that Rutt does not teach the geometrical image transformation to process the image Examiner agree that Rutt teaches the geometrical transformation but does not explicitly teaches the image is being processed using geometrical image transformation. Claus teaches detecting an image with said CCD sensor and outputting image data; detecting said flight movements of said carrier as angular data with an inertial sensor having a finite bandwidth causing said inertial sensor to supply said angular data with a time delay; delaying said image data by a time interval which considers said time delay; and, correcting the delayed image data in accordance with said detected angular data to thereby eliminate the unwanted movement influences of said flight movements of said carrier ( column 4, lines 25-43). Applicant argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.: how "to deliberately spin the reconnaissance device" and how "to produce a steady image") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). All remaining arguments are reliant on the aforementioned and addressed arguments and thus are considered to be wholly addressed herein.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutt et al (EP 0447080) in view of Claus et al (US 7,133,067).

As to claim 8, Rutt et al. teaches a method for formation, on a display stationed at a fixed post, of successive images of a scene towards which a flying body is moving while rotating about its longitudinal axis, said flying body communicating with said fixed post by virtue of a communication link, a picture-taking apparatus being fixed rigidly to the front of said flying body, in such a way that said apparatus turns with said flying body about said longitudinal axis said method comprising:

taking with said apparatus, during each revolution of the rotation of said flying body about said longitudinal axis ( figure 1, column 2, lines 53- column 3, lines 1-4) , several pictures of said scene each corresponding to a predetermined angular position of said flying body about said longitudinal axis, so that the contours of said pictures are inclined in mutually differing manners and so that, in each picture, the image of said scene and said contour occupy a relative position which depends on said corresponding predetermined angular position of said flying body and which is different from that of the other pictures ( the optical system 6 may be mounted with its optics axis at an angle to the longitudinal axis of the reconnaissance device and the reconnaissance device made deliberately to rotate so as to enable a larger area to be viewed, column 3 lines 13-20);

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determining, among said pictures, a reference picture in which said relative position between the image of the scene and the contour is considered to be a relative reference position; and displaying said reference picture and said pictures having undergone said geometrical image transformation processing successively on said display ( column 2, lines 53- column 3, lines 1-4), the rotation of the flying body is initiated at the moment of its launching ( figure 1). While Rutt et al meets a number of the limitations of the claimed invention, as pointed out more fully above, Rutt fails to specifically teach that that relative position depends on a predetermined angular position of the flying body and applying in each picture, other than the reference picture, a geometrical image transformation processing to the image of said scene so that the relative position of the transformed image of said scene with respect to the contour is similar to said relative reference position. Specifically, Claus et al. teaches digitally stabilizing an image recording with a CCD sensor, which is mounted in a moving or airborne carrier, for substantially eliminating unwanted movement influences of flight movements of the carrier on the image quality of the image recorded by the CCD sensor. The method includes the steps of: detecting an image with the CCD sensor and outputting image data; detecting the flight movements of the carrier as angular data with an inertial sensor and the inertial sensor being adapted to supply the angular data with a time delay; and, correcting the image data in accordance with the detected angular data with the image data being time delayed by a time interval relative to the detected angular data. Claus clearly teaches the image correction ( i.e. geometrical image transformation ) in column 3 lines 46-63 and column 4 ,lines 26-43 wherein an image is detected with said CCD sensor and outputs image data; detecting said flight movements of said carrier as angular data with an inertial sensor having a finite bandwidth causing said inertial sensor to supply said

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angular data with a time delay; delaying said image data by a time interval which considers said time delay; and, correcting the delayed image data in accordance with said detected angular data to thereby eliminate the unwanted movement influences of said flight movements of said carrier.

It would have been obvious to one of ordinary skill in the art to use the geometrical image transformations of Claus et al in order to get stabilization accuracy and an increase in the performance .Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

The limitation of claim 9 has been addressed above.

As to claim 10, Rutt in view of Claus teaches the system as claimed in claim 9, of wherein said control unit that controls the picture-taking apparatus comprises a gyroscopic system mounted on board said flying body and sensitive to the rotation of the latter contour of its longitudinal axis (column 2, lines 53- column 3, lines 1-4, see also inertial sensor, 2 m figure 1 of Claus et al.).

As to claim 11, Rutt et al teaches the system as claimed in claim 9, wherein said processor is stationed at the fixed post (note that the reconnaissance device may be stabilized against spinning by means of subsidiary drogues, or by winglets which are deployed at the same time as the parachute 13, column 3, lines 10-14, see also Claus et al figure 1 and column 2, lines 28-63).

As to claim 12, Rutt teaches the system as claimed in claim 11, wherein a link between said picture-taking apparatus and said image processing means processor is effected by said link between said flying body and said fixed post ( see claim 1).

7. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutt et al. in view of Claus et al ( US 7,133,067) and further in view of Holder Donald et al ( US 4,637,571)

As to claim 13, Holder Donald et al teaches the system as claimed in claim 10, wherein the sequencing of the operation of said processor is controlled by said gyroscopic system (4) by way of said link between said flying body (M) and said fixed post ( column 1, lines 52-column 2, lines 2; column 4, lines 5-8; and claim 1, and figure 2).It is obvious to the person skilled in the art to control the gyro with respect to a link between the flying body and the fixed post in Rutt system in order to receive a stable guidance signal indicative of true pitch and yaw LOS of the missile with respect to the target, while the undesirable vibration and rotational signals are eliminated.

8. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutt et al in view of Claus et al and further in view of Ahlstrom Lars et al ( US 4,796,834)

While Rutt et al. meets a number of the limitations of the claimed invention, as pointed out more fully above, Rutt et al. fails to specifically teach the an illumination unit, mounted on board said flying body for lighting said scene. Specifically, Ahlstrom et al teaches a projectile in a burst is provided with an illumination source which is activated by a target detector at the end of the projectile trajectory wherein the source selectively illuminates the target and its closest surroundings with radiation for which the target tracking device in other projectiles is



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sensitive. A following projectile corrects its trajectory toward the target. All projectiles in a burst can be provided with an illumination source which is activated at the end of the trajectory as a guidance aid for following projectiles (see claim 1). It would have been obvious to one of ordinary skill in the art to illuminate the scene in Rutt in order to improve the accuracy where the target tracking devices in these projectiles can more easily discover the target. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

### ***Conclusion***

**9. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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